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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/561,875	05/05/2006	Jan Jensen	64704(45579)	1128

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EXAMINER
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EDWARDS, LYDIA E

ART UNIT	PAPER NUMBER
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1797

MAIL DATE	DELIVERY MODE
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12/09/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/561,875	<b>Applicant(s)</b> JENSEN ET AL.	
	<b>Examiner</b> LYDIA EDWARDS	<b>Art Unit</b> 1797	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 05 May 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/22/2005</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 4, 12-17, and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claim 4, the examiner is unclear as to whether there is only one reactor that is capable of multi-phase/multi-phase use or as to whether there are multiple reactors (e.g. first reactor and second reactor).

As to claim 20, the examiner is unclear as to which reactor the partitioning device is attached.

Claims 12-17 recites the limitation "wherein the threshold size" in wherein the threshold size is larger than or equal to. There is insufficient antecedent basis for this limitation in the claim.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –  
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 6-17, and 21-31 are rejected under 35 U.S.C. 102(b) as being anticipated by Kubler (US 5529692).

Regarding Claims 1, 3 and 30-31, Kubler ('692) discloses biogas producing facility comprising a first reactor [1] for holding organic waste for production of biogas and having an output [12] for waste, and an anaerobic tank [2] that is connected to the first reactor output for anaerobic hydrolysis of the digested waste and having an output [15] for hydrolyzed material that is connected to an input [20] of a second reactor [3] for adding hydrolysed material to the content of the second reactor (Col 11, lines 41-50; Figure 1).

Kubler does not explicitly disclose digestion in the first reactor.

In any case, it is submitted that it is well within the purview of the skilled artisan to utilize digestion to perform acidification in order to, for example, reliably produce low molecular weight compounds for subsequent methane generation.

Kubler also teaches a separator [4 and 11] that is connected to the first reactor output for selective separation of particles larger than a predetermined threshold size from the digested waste and having an output for the separated large particles (Col 13, lines 58-67 and Col 16, lines 24-27).

Regarding claims 2, 7-17, 21-25 and 28, claims 2, 7-17, 21-25 and 28 does not further limit the claim structure of the device as claimed and therefore have not been given any patentable weight.

Regarding claim 6, Kubler ('692) discloses wherein the hydrolysis reactor comprises another inlet/input for reception of material in the tank for anaerobic hydrolysis together with material from the first reactor Col 13, line 65-Col 14, line 3).

Regarding claim 26, Kubler ('692) discloses a second separator that is connected to the second reactor output for selective separation of particles larger than: a predetermined threshold size from the digested waste and having an output for the separated large particles, and wherein the anaerobic tank is connected to the second separator output for hydrolysis of the separated particles (Col 14, lines 30-38 and Col 16, lines 24-27; Figure 1).

Regarding claim 27, Kubler ('692) discloses wherein the second separator further comprises a second dewatering device for dewatering of the separated particles (Col 14, lines 30-38 and Col 16, lines 24-27; Figure 1).

Regarding claim 29, Kubler ('692) discloses wherein the anaerobic tank has a gas output for supplying gas produced during hydrolysis to be combined with biogas produced in the reactor (Figure 5).

Regarding claim 31, Kubler ('692) discloses method according to claim 30, further comprising the step of selective separation of particles larger than a predetermined threshold size from the digested waste before performing the anaerobic hydrolysis (Col 16, lines 24-27).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 4-5 and 19 are rejected under 35 U.S.C. 103(a) as being obvious over Kubler (US 5529692).

Regarding claim 4, Kubler ('692) discloses in Col 2, lines 1-8 that it is known in the art to use a single multi-phase reactor. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use a single reactor

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with two different reaction regimes in order to, for example, simplify installation and reduce the footprint of a treatment plant.

Regarding claim 5, claim 5 does not further limit the claim structure of the device as claimed and therefore have not been given any patentable weight.

Regarding claim 19, Kubler ('692) discloses wherein the separator further comprises a dewatering device for dewatering of the separated particles (Col 13, lines 58-67 and Col 16, lines 24-27).

Claims 18 and 20 are rejected under 35 U.S.C. 103(a) as being obvious over Kubler (US 5529692) as applied above in claim 1, in view of Lee, Jr. (US 6905600).

Regarding Claim 18, Kubler ('692) does not disclose wherein the anaerobic tank is further connected to a pressure source for provision of a pressure in the anaerobic tank above 1 atmosphere.

Lee, Jr. ('600) discloses wherein the pressure of a thermal hydrolysis reactor is maintained as needed to provide the desired level of organic waste particulate matter (Col 5, lines 15-30 and 53-61). A pressure source is an inherent property of Lee, Jr.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a pressure source to device of Kubler as taught by Lee, Jr., since it was known in the art that the pressure conditions of a thermal hydrolysis

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reactor are maximized as needed in order to provide the desired level of organic waste particulate matter

Regarding Claim 20, Kubler ('692) does not disclose a partitioning device for partitioning of organic waste and having an output for supplying the: partitioned waste to the reactor.

Lee, Jr. ('600) discloses a (partitioning device) particle sizer [12] for partitioning of organic waste and having an output for supplying the: partitioned waste to the reactor (Col 4, lines 54-67; Figures 1-2).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Kubler with the particle sizer of Lee, Jr. in order to provide desired sized particles known to the art

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LYDIA EDWARDS whose telephone number is (571)270-3242. The examiner can normally be reached on Mon-Thur 6:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Walter Griffin can be reached on 571.272.1447. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/LYDIA EDWARDS/  
Examiner  
Art Unit 1797

LE

/Walter D. Griffin/  
Supervisory Patent Examiner, Art Unit 1797